What is claimed is:

1. A method of operating a fuel cell supplied with a fluid stream, said fuel cell having a mean life expectancy, said method comprising the step of reversing the direction of flow of said fluid stream after a time period of operation of said fuel cell, wherein said time period is less than said mean life expectancy and said time period is a substantial part of said mean life expectancy.

2. The method of claim 1, wherein said fluid stream is one of a fuel stream, an oxidant stream and a coolant stream.

3. The method of claim 1, wherein said mean life expectancy of said fuel cell is empirically determined.

4. The method of claim 1, wherein said step of reversing the direction of flow of said fluid is performed less than about 10 times over said mean life expectancy of said fuel cell.

5. The method of claim 1, wherein said time period of operation of said fuel cell is equal to about 75% to about 90% of said mean life expectancy.

6. The method of claim 1, wherein said fuel cell is supplied with a fuel reactant stream and an oxidant reactant stream, and said fuel reactant stream is supplied to a first reactant flow field associated with the anode, and said oxidant reactant stream is supplied to a second reactant flow field associated with the cathode of said fuel cell, and said method comprises the step of reversing the direction of flow of both said fuel and oxidant reactant streams through said first and second reactant flow fields.

7. The method of claim 1, wherein said fuel cell is a solid polymer electrolyte fuel cell.

8. The method of claim 1, wherein said fuel cell is one of a plurality of fuel cells in a fuel cell stack and the direction of flow of said fluid stream through each one of said plurality of fuel cells is reversed.

9. The method of claim 1, wherein said fluid stream is supplied to said fuel cell by a supply conduit connected to a first port on said fuel cell.

10. The method of claim 1, wherein said fluid stream is exhausted from said fuel cell by an exhaust conduit connected to a second port on said fuel cell.

11. The method of claim 10, wherein said method comprises the steps of:

disconnecting said supply conduit from said first port;

disconnecting said exhaust conduit from said second port;

connecting said supply conduit to said second port respectively; and

connecting said exhaust conduit to said first port.

12. The method of claim 11, wherein said fuel cell is symmetric about said first and second ports and said method comprises the step of rotating said fuel cell to align said second port with said supply conduit and said first port with said exhaust conduit, and said rotating step is performed after said disconnecting step.

13. A fuel cell assembly comprising a fuel cell, fluid ports for receiving and exhausting a fluid stream for passage through said fuel cell, and fluid conduits for supplying and exhausting said fluid stream, said fuel cell assembly further comprising a fluid stream flow switch for reversing the direction of flow of said fluid stream after a time period of operation of said fuel cell, wherein said time period is less than the mean life expectancy of said fuel cell and said time period is a

substantial part of said mean life expectancy.

14. The fuel cell assembly of claim 13, wherein said fluid stream is a fuel stream, an oxidant stream, or a coolant stream.

15. The fuel cell assembly of claim 13, wherein said fluid stream flow switch reverses the direction of flows of both a fuel stream and an oxidant stream.

16. The fuel cell assembly of claim 13, wherein said fluid stream flow switch is manually activated.

17. The fuel cell assembly of claim 13, said assembly further comprising a controller for activating the fluid stream flow switch.

18. The fuel cell assembly of claim 17, wherein said controller reverses the direction of flow less than about 10 times over said mean life expectancy of said fuel cell.

19. The fuel cell assembly of claim 17, wherein said time period of operation of said fuel cell is equal to about 75% to about 90% of said mean life expectancy.

20. The fuel cell assembly of claim 13, further comprising a dead-ended fluid flow path.

21. The fuel cell assembly of claim 13, wherein said fuel cell is a solid polymer electrolyte fuel cell.